

REMARKS

Following entry of the above amendments, claims 1-18 will be pending. Claims 19 and 20 have been canceled. Claim 9 has been amended to correct a misspelled word. Claim 15 has been amended, without intended change in scope, to render moot a question of indefiniteness.

The specification has been amended to address several minor errors.

A replacement drawing sheet is submitted herewith, amending Fig. 8 to include the major axis 32 and the minor axis 34.

Restriction Requirement

Applicants affirm the telephone election made on February 6, 2007, and reported in the Office Action. Withdrawn claims 19 and 20 have been canceled.

Objection to the Specification

Paragraph [0006] has been amended in response to the objection to the specification. Withdrawal of the objection is therefore requested.

Objection to the Drawings

In response to the objection to the drawings, a replacement drawing sheet is submitted herewith, amending Fig. 8 to include the major axis 32 and the minor axis 34. Withdrawal of the objection is therefore requested.

Indefiniteness Rejections

Claims 15-17 stand rejected under 35 USC 112, second paragraph, as indefinite. Claim 15 has been amended to recite "reflecting the asymmetric radiation at an average angle of incidence relative to the reticle," the underlined language having been added by amendment. It is believed that this amendment renders moot any question of

indefiniteness, and withdrawal of the rejections is therefore respectfully requested.

Prior Art Rejections

The rejections are addressed below in the order raised in the Action. In short, the main reference (Tanitsu) does not teach or suggest reflecting asymmetric radiation off a reflective reticle, as is recited in claim 1, and none of the secondary reference make up for this shortcoming.

Tanitsu

Claims 1, 2, 4-12, and 14-16 stand rejected under 35 USC 102(b) as anticipated by Tanitsu et al., U.S. Patent Publication No. 2002/0085276 ("Tanitsu"). The claims are patentable over Tanitsu at least because Tanitsu does not teach or suggest reflecting radiation off a reflective reticle.

Tanitsu discloses an illumination optical apparatus that directs light from a light source 1 to pass through a reticle M to a wafer W. Tanitsu's apparatus includes an aspect ratio-changing element 10 for changing aspect ratio of a quadrupole or annular secondary light source, in order to change an angle of incidence of the incoming light beam in a predetermined direction into an optical integrator. Paragraph [0011]. Tanitsu does not disclose reflecting asymmetric radiation off a reflective reticle.

Claim 1 recites a method of selective exposure of a resist, wherein the method includes, *inter alia*, reflecting asymmetric radiation off a reflective reticle. Tanitsu does not teach or suggest reflecting radiation off a reflective reticle. Tanitsu's system involves passing light through the reticle M, and Tanitsu does not teach or suggest use of a reflective reticle. Since Tanitsu does not teach or suggest all of the features of claim 1, claims 1, 2, 4-12, and 14-16 are patentable over Tanitsu.

Dependent claim 7 recites that the elliptical ring shape of the asymmetric radiation has a non-uniform ring width. Tanitsu does not teach or suggest radiation with

an elliptical ring shape having non-uniform ring width. In the Action, Fig. 5B of Tanitsu is cited with regard to this claim. However, Tanitsu does not show a non-uniform width in Fig. 5B and the specification of Tanitsu clearly states that Z-direction size of the annular secondary light source of Fig. 5B is changed "without changing the width of the annular secondary light source." Paragraph [0125]. Since Tanitsu does not teach or suggest the additional recited feature of claim 7, claim 7 is patentable over Tanitsu for another reason.

Dependent claim 9 recites transforming symmetric radiation to asymmetric radiation by reflecting the symmetric radiation off a mirror. Claim 10 recites that the mirror is a fly's eye mirror having a plurality of facets, while claim 11 recites that the mirror is a fixed mirror. Tanitsu does not teach or suggest these additional features. Tanitsu discloses producing asymmetric radiation by passing quadrupole or annular secondary light through ratio-changing elements that are made up of prismatic elements. Paragraph [0011]. The portions of Tanitsu cited in the Action with regard to claims 9-11 do not teach or suggest the recited features. The mirror 3 cited with regard to claims 9 and 11 does not transform symmetric radiation to asymmetric radiation at all. The mirror 3 is bending mirror used merely to redirect light. Paragraph [0101]. The fly's eye "mirror" 6 cited with regard to claim 10 is not a mirror at all – rather Tanitsu makes clear that the element 6 is a micro fly's eye lens, paragraph [0095], a different type of optical element altogether. Tanitsu does not appear to disclose any use of a fly's eye mirror, and certainly does not teach or suggest use of such a mirror in transforming symmetric radiation into asymmetric radiation. Since Tanitsu does not teach or suggest the recited features of claims 9-11, claims 9-11 are patentable over Tanitsu for additional reasons.

Since Tanitsu does not teach or suggest reflecting asymmetric radiation off a reflective reticle, as is recited in claim 1, Tanitsu does not teach or suggest the additional features of claims 15 and 16.

Combination of Tanitsu and Amara

Claim 3 stands rejected under 35 USC 103(a) as obvious over Tanitsu in view of Amara et al., U.S. Patent No. 6,731,380 ("Amara"). Amara discloses a method and apparatus for measuring refractive index and thin film thickness. Amara does not make up for the failure of Tanitsu to teach or suggest all of the recited elements of claim 1. For this reason alone claim 3 is patentable over Tanitsu and Amara, either alone or in combination. In addition, it appears that it would not have been obvious to combine Tanitsu and Amara, at least because they are from disparate fields of endeavor.

Combination of Tanitsu and Takai

Claim 13 stands rejected under 35 USC 103(a) as obvious over Tanitsu in view of Takai et al., U.S. Patent Publication No. 2005/0225752 ("Takai "). Takai discloses a method for evaluating gel state or sol-gel state change of an object. Takai does not make up for the failure of Tanitsu to teach or suggest all of the recited elements of claim 1. For this reason alone claim 13 is patentable over Tanitsu and Takai, either alone or in combination. In addition, it appears that it would not have been obvious to combine Tanitsu and Takai, at least because they are from disparate fields of endeavor.

Combination of Tanitsu and Kim

Claim 17 stands rejected under 35 USC 103(a) as obvious over Tanitsu in view of Kim, U.S. Patent Publication No. 2005/0225752 ("Kim "). Kim discloses a method for adjusting brightness of a display. Kim does not make up for the failure of Tanitsu to teach or suggest all of the recited elements of claim 1. For this reason alone claim 17 is patentable over Tanitsu and Kim, either alone or in combination. In addition, it appears that it would not have been obvious to combine Tanitsu and Kim, at least because they are from disparate fields of endeavor.

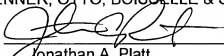
Conclusion

In view of the above, it is believed that the application is in condition for allowance. Should the Examiner believe that a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact Applicant's undersigned attorney at the telephone number listed below.

No fee is believed due with the filing of this paper. In the event any fees are due in connection with the filing of this paper, the Commissioner is authorized to charge those fees to Deposit Account No. 18-0988 (Charge No. AMDSPH1547US).

Respectfully submitted,
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